# STUDY OF SCHOOL FOOD PROCUREMENT PRACTICES



## FINAL REPORT - VOLUME II

## PROCUREMENT MODELS AND GUIDES





U.S. DEPARTMENT OF AGRICULTURE
FOOD AND NUTRITION SERVICE

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## PROCUREMENT MODELS AND GUIDES

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MAY 1978

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UNITED STATES DEPARTMENT OF AGRICULTURE
FOOD AND NUTRITION SERVICE

# VOLUME II - PROCUREMENT MODELS AND GUIDES

## I - INTRODUCTION AND SUMMARY

The purpose of this report is to present school food procurement personnel with practical decision guides that will assist you in managing the total food procurement activity. These guides are the result of a detailed evaluation conducted by Kearney of alternative school food procurement systems. A detailed description of that study is presented in companion Volume I - Analysis of Current Practices. The basic conclusions of that analysis were as follows:

1. The individual school purchasing system is not cost-effective. All schools should consolidate food purchasing at least to the district level.

2. The desirability of further consolidation of purchasing into multi-district systems, such as joint, cooperative and statewide systems, depends on two factors: the degree of vendor competition for the school business, and the extent to which the schools use that competition to advantage by following certain fundamental principles of effective food purchasing management. These fundamentals include ordering appropriate (not necessarily the highest) quality, increasing the volume purchased per order, paying promptly, utilizing competitive bidding procedures, avoiding emergency "spot" buying and other practices that are described further in the report.

3. Lower prices due to "economies of scale" in food purchasing, (i.e., larger total volume of purchases) are not significant in urban areas where active vendor competition keeps prices down.

Therefore, urban school systems and large rural systems do not stand to benefit from multi-district purchasing structures. Small urban systems can receive the same prices as large urban systems, if they adopt the fundamental principles of food purchasing management.

4. Small rural systems do not have the size individually to attract strong competition for their business. By forming multi-district buying groups, however, they can attract more competition and lower prices. To be effective, however, the buying group must follow the same fundamental principles of effective buying as the urban systems.

5. Administrative costs tend to be influenced more by total system purchase volume than system structure. Therefore, qualitative considerations will dominate the decision on how to structure a cooperative purchasing system. The joint purchasing system is desirable when there are relatively few member districts (less than 15) and one or more of the members is willing to assume responsiblity for administration. Pure cooperative arrangements are best when the number of member districts exceeds 15, due to the magnitude of administrative coordination required. Statewide purchasing cooperative systems are desirable as long as they do not require a school-operated distribution network.

6. School-operated distribution systems are not cost-effective. The savings achieved through larger purchases are more than offset by the excessive costs of school-operated distribution. In order to be cost-effective, total school-operated distribution costs must be less than $.48 per case distributed. It is extremely unlikely that schools can operate at this cost level. Therefore, schools that do not presently operate a distribution network should continue to refrain from doing so.

7. Schools that already operate a distribution network must consider the composition of costs in order to assess effectiveness. If the variable portion of distribution costs exceeds five percent of the value of the food distributed, then the school should consider abandoning its distribution network in favor of vendor direct delivery. Since vendor direct delivery generally costs five percent of the food value, the school system will save money, even though the fixed portion of the cost continues.

8. Inclusion of donated commodities in the system should not affect the basic conclusions listed above. If purchased food cannot be distributed in a cost-effective manner, it should be removed from the network. This should lead most districts to utilize public warehousing for donated commodities, rather than operate a school network.

Our findings therefore provide a new interpretation to the results of the 1974 ERS study that found that larger school districts had substantially lower food costs than smaller districts. Larger school districts do tend to have lower food costs than smaller districts. The primary reason for this, however, is that large districts tend to be located in urban areas with active vendor communities. Nearly 70 percent of the nation's public school systems, however, are located outside of standard metropolitan statistical areas (SMSA) and over half consist of less than three schools with enrollment less than 1,000 ADA. Therefore, in order to be most effective the emphasis

on multi-district purchasing arrangements should be toward these rural systems.

The balance of this report translates these conclusions into specific decision guides that are applicable to your individual situation. It is organized into the following sections:

| Section Title | Description |
|---|---|
| II - Definitions of Procurement Systems | Describes the six activities that comprise purchasing, the four types of purchasing systems, the two activities that comprise distribution, and the three types of distribution systems. |
| III - Procurement Models | Describes how to evaluate your current effectiveness and identify the potential available for improvement. |
| IV - Procurement Guide | Describes effective buying techniques that should be followed by all systems. |

## II - DEFINITIONS OF PROCUREMENT SYSTEMS

The typical food procurement system is composed of a purchasing component and a distribution component. Each must be considered independently when analyzing procurement effectiveness. This section defines the activities that comprise purchasing and distribution, and defines the four types of purchasing systems and the three types of distribution systems.

### THERE ARE SIX MAJOR ACTIVITIES THAT COMPRISE THE PURCHASING COMPONENT

The purchasing component of the total procurement system is concerned with all activities necessary to place an order with a vendor. These activities include the following processes:

1. Product Specification, which is the process of determining quality, style, and container requirements for the product.

2. Requirements Definition, determining the quantity needed during a given time period.

3. Vendor Selection, evaluating vendor capabilities and prices and selecting the most responsive bidder.

4. Order Placement, developing suitable contracting procedures.

5. Quality Assurance, monitoring product specifications for appropriateness, evaluating new and existing products for performance to those specifications, and educating food service personnel on appropriate quality control techniques.

6. Administration, determining bidding procedures, selection criteria, counseling with vendors and food service management and searching for new opportunities to improve effectiveness.

All activities required to move the product from the vendor to the point of use are included in the distribution component, which is discussed later.

## THERE ARE FOUR BASIC TYPES OF PURCHASING SYSTEMS

The four types are: the Individual School System, the District System, the Multi-District System, and the State System. Each of these is described below:

1. Individual School System. This system is the most decentralized purchasing system in the sense that all purchasing functions are performed by personnel located at the consuming source location -- the individual school. Purchasing responsibilities are generally performed by the school cafeteria manager who is primarily concerned with kitchen operations. Therefore, only a limited portion of this person's time can be devoted to these duties.

2. District System. This system is one in which most of the purchasing activities for all schools in a district are handled by someone at the district level. This district person may be in the purchasing organization, but generally is the district Food Service Director. The extent of involvement on the part of school cafeteria managers may vary depending on the amount of time that district personnel are able to devote to purchasing. In general, however, the district purchasing system relieves the individual cafeteria manager of purchasing concerns and allows that person to concentrate on operational matters.

3. Multi-District System. The Multi-District System describes a purchasing system in which two or more districts consolidate their food purchasing requirements in order to function as one buying unit when dealing with vendors. The organization of these systems further distinguishes them into two categories -- Joint and Cooperative:

   (a) The Joint System is one in which the member districts share administrative responsibilities using their existing staffs. Division of responsibilities can be on either a rotating or permanent basis.

   (b) The Cooperative System is one in which the member districts create a separate organization that will be responsible for administering the purchasing function. These services are generally funded via some type of membership fee or service charge applied to purchases. Cooperative systems generally retain a legal status separate from the members.

4. Statewide System. This system is a variation of the Multi-District System. In it, a state agency is responsible for purchasing for all state schools as well as other public institutions, such as hospitals and jails. Funding for this system is similar to a cooperative, i.e., a service charge or administrative fee is applied to each purchase.

The foregoing definitions will be used in the balance of this report to apply to the "pure" example of each system. In practice, however, many school purchasing systems can be classified as "hybrid" in the sense that schools may adopt different administrative structures for different types of foods. For example, it is possible to find a system in which member districts purchase the majority of their requirements at the district level, yet still purchase portions through a Multi-District Cooperative and still another portion at the individual school level. A single classification of such a system can be misleading.

## THERE ARE TWO MAJOR ACTIVITIES THAT COMPRISE THE DISTRIBUTION COMPONENT

The distribution component of the total procurement system is concerned with the following two major activities necessary to move the product from the vendor location to the point of use:

- Warehouse Management, which is the process of receiving goods from vendors, storing them, and issuing them in response to district or individual school orders.

- Transportation, which is the process of scheduling deliveries and operating vehicles necessary to transport goods between warehouses and/or between a warehouse and the point of use.

## THERE ARE THREE BASIC TYPES OF DISTRIBUTION SYSTEMS

The three types of distribution systems include: Direct Delivery (Vendor direct to school), the Central Distribution System, and the Echelon Warehousing System. Each of these is described below:

1. Direct Delivery. This system is also known as the "Vendor Direct" System and describes a structure in which the vendor delivers the item directly to the point of meal preparation. No school-operated warehousing or transportation facilities or equipment are involved in this system. The costs of warehousing at the vendor location and transportation from the vendor to the school are included in the price of the food item(s) paid by the school.

2. Central Distribution. This system describes a structure in which the school district operates a central warehouse for receiving vendor deliveries. The district also operates its own transportation system to move food from the central warehouse to the individual schools or points of final meal preparation. This system allows the district to order in larger quantities and take less frequent deliveries from vendors than the Direct Delivery System. There is also, however, the additional cost of owning and operating a warehousing and transportation network which must be added to the cost of purchased food.

3. Echelon Warehousing. This system is an extension of the Central Distribution System in which the schools operate two or more echelons of warehousing and transportation networks between the vendor and the point of use. Generally the Echelon System has a single cooperative warehouse which receives vendor deliveries. School districts then transport the food from the echelon warehouse to their own central warehouse, and subsequently to the point of use. This system provides the capability to purchase in very large quantities. Again, however, the schools must absorb all additional costs connected with operating the two-stage warehouse and transportation network.

As with the purchasing structures described previously, it is not unusual to find a school district employing more than one type of distribution system. Some districts may use all three structures. All districts utilize the direct delivery system for perishable items such as milk, bakery and produce. The structure of the purchasing and distribution components of the total procurement system are not necessarily dependent on each other. For example, a Multi-District purchasing system could use any or all of the distribution systems (Direct Delivery, Central, and Echelon) and the Direct Delivery distribution system could use any or all of the purchasing systems (Individual School, District, and Multi-District.) It would be unusual, however, for

the purchasing system to use a distribution system whose scope is larger. For example, the Individual School Purchasing System rarely would use a Central or Echelon warehousing system. The typical combinations of purchasing and distribution systems are shown below:

Table II-1

Relative Frequency of Combinations of Purchasing and Distribution Systems

| Purchasing System | Distribution System | | |
|---|---|---|---|
| | Direct Delivery | Central | Echelon |
| Individual School | Typical | Unusual | Very Unusual |
| District | Typical | Typical | Unusual |
| Multi-District Joint | Typical | Typical | Typical |
| Multi-District Cooperative | Typical | Typical | Typical |
| State | Unusual | Unusual | Typical |

The next section present decision models that will help you assess your current system and analyze the improvement potential available through alternative structure.

# III - PROCUREMENT MODELS

The objective of this chapter is to provide models of economy that can be used by school food service personnel to assess current system performance and identify the relative magnitude of improvement opportunity available. To clarify the discussion, separate decision diagrams have been developed to assist in evaluating administration, purchasing and distribution costs.

To put these three components of cost in perspective, it is helpful to view the relative magnitude of each of these cost elements. For the average case of food, costs are broken down as follows:

Table III-1

Average Procurement Cost Per Case

| Element | Average Cost Per Case | Range |
|---|---|---|
| Cost of Goods | $10.00 | $8.70-12.20 |
| Distribution | 1.00 | 0- 3.00 |
| Administration | .30 | .10- .60 |
| Total Procurement Cost | $11.30 | $8.80-15.80 |

The balance of this chapter will present economic cost models for each of these components. For each model there is a decision diagram, a description of how to measure current performance, and a discussion of means to implement improvements. Each model is structured into four basic steps in priority sequence:

1. Classify Your Present System According to Model Definitions.

2. Compare Your Costs With the Model's Guidelines.

3. Determine What Potential Improvements Are Available Through Following More Effective Practices -- Not Restructuring.

4. Determine What Additional Improvements Are Available Through Restructuring.

The basic strategy is to do the easier things first. It is always easier to improve the approach you are following in your present structure than it is to reorganize the structure.

The models are presented in the following sequence:

- Administration
- Purchasing
- Distribution.

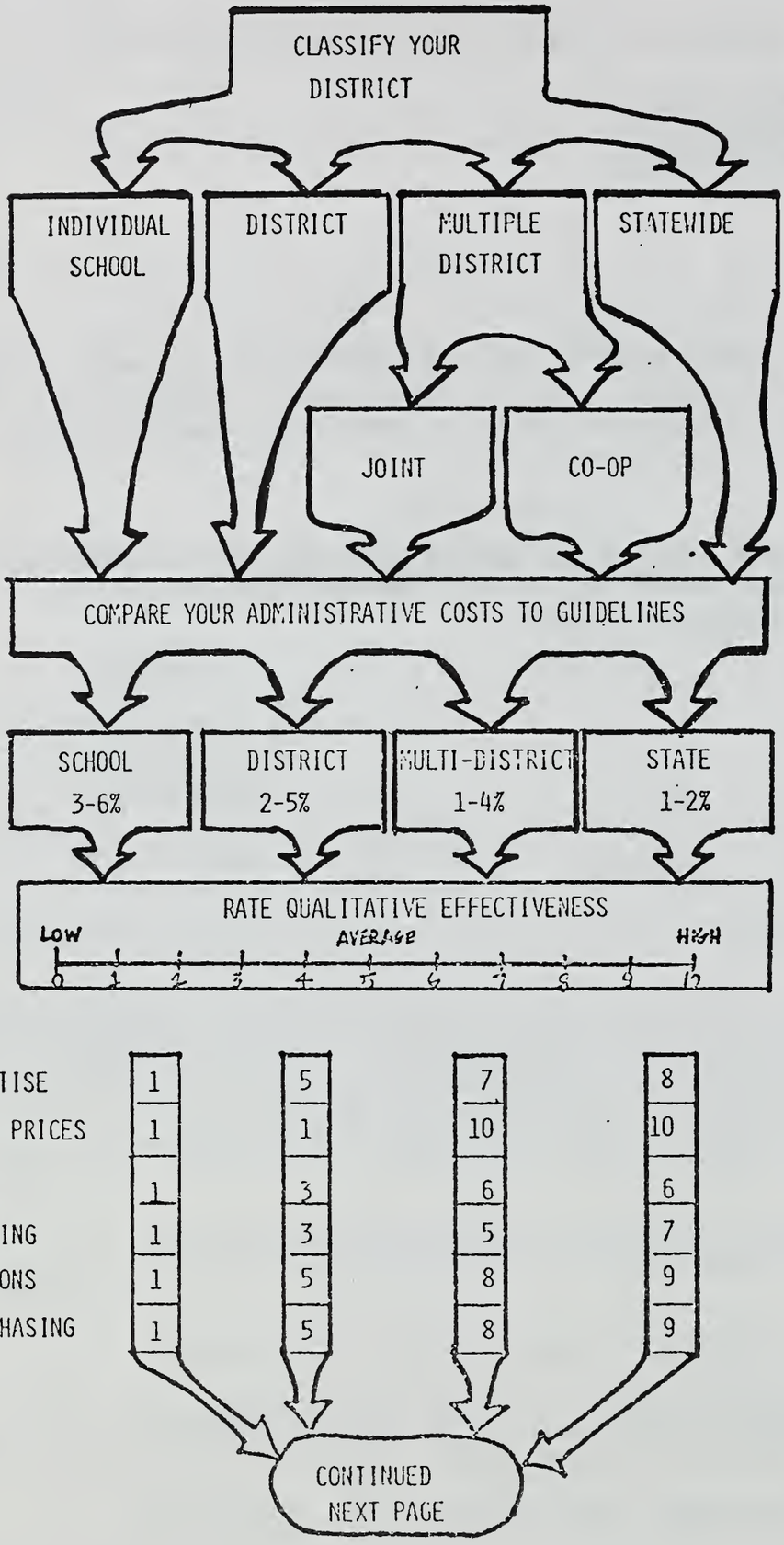
## ADMINISTRATIVE COST MODEL

Administrative costs should be the lowest cost element of the total procurement system. It is important, however, for the food service manager to understand what the magnitude of those costs are.

The diagram on the next page describes the key elements of the Administrative Cost Model. It is further described in narrative form on subsequent pages.

## Table III-2

## Administration Decision Model

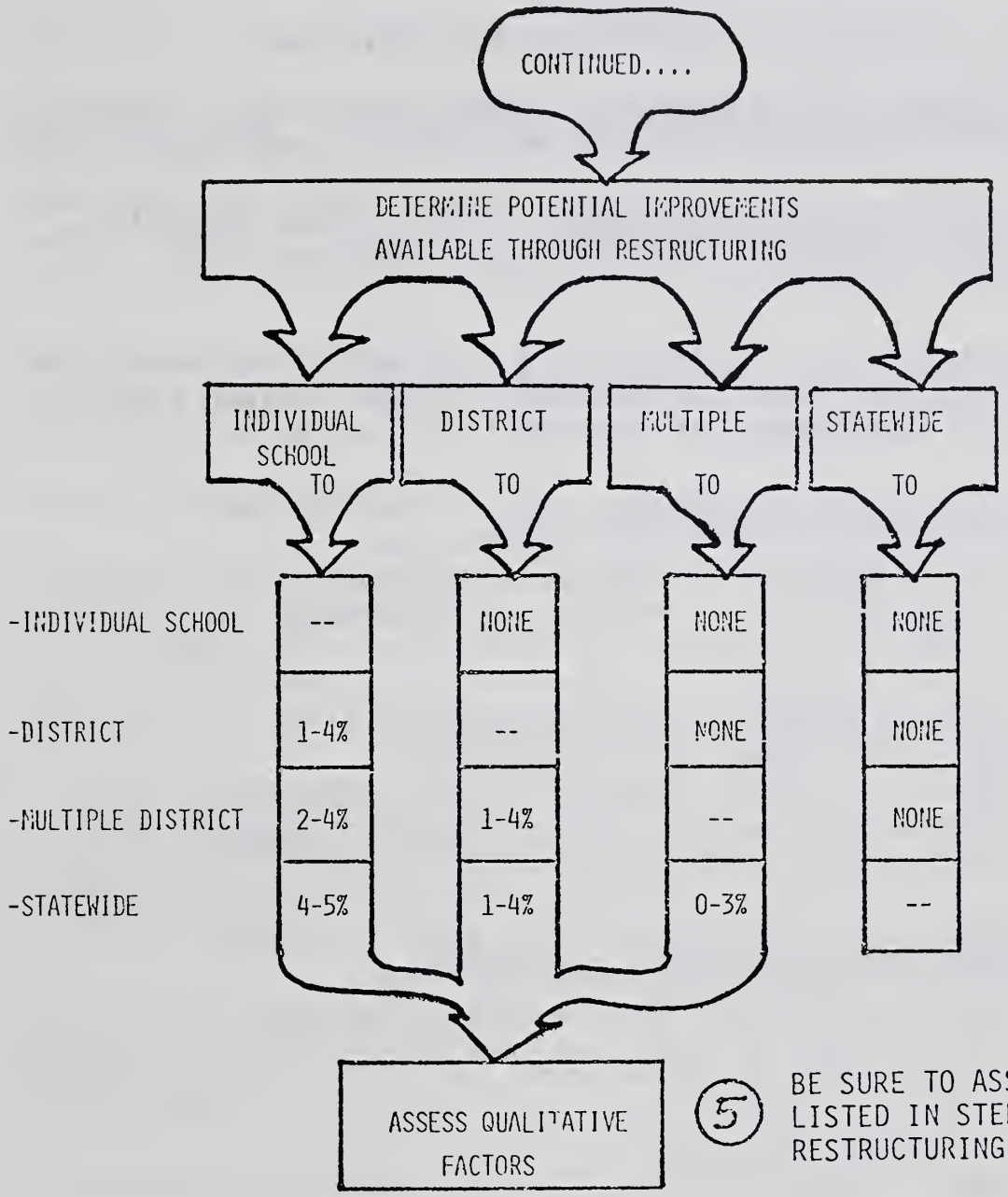



(1) ALL SYSTEMS ARE CLASSIFIED INTO FOUR CATEGORIES. SEE TEXT FOR DEFINITIONS.

(2) SEE TEXT FOR COST WORKSHEET. GUIDELINES ARE PERCENT OF ADMINISTRATIVE COST TO VALUE OF FOOD PURCHASED.

(3) QUALITATIVE CAPABILITIES OF THE PROGRAM ARE AS IMPORTANT TO ADMINISTRATIVE SYSTEM AS COST. NOTE THAT THE LARGER SYSTEMS HAVE HIGHER CAPABILITIES.

Table III-2 (Continued)




(4) COST IMPROVEMENTS DUE TO RESTRUCTURING ARE SHOWN IN TABLE, I.E., 1-4% REDUCTION IN COST BY CHANGING FROM INDIVIDUAL SCHOOL TO DISTRICT SYSTEM.

(5) BE SURE TO ASSESS THE FACTORS LISTED IN STEP 3 BEFORE RESTRUCTURING.

Each of the steps are described below.

(a) Determine Present Structure

Determine which definition describes your system:

1. Individual School System. Each individual school within the school district performs its own purchasing functions.

2. District Purchasing System. The school district performs the majority of the purchasing functions for its individual schools.

3. Multiple District Purchasing System. Two or more districts consolidate requirements through a joint selection of vendors and a combined placement of orders:

(b) Joint Purchasing Systems. Two or more districts share the purchasing activities with administrative responsibility handled by existing staff.

(b) Cooperative Purchasing Systems. A separate legal entity having administrative responsibility for the purchasing activities of member school districts.

(c) Statewide Purchasing Systems. A state purchasing agency performs the majority of the purchasing functions for the state institutions.

(b) Compare Your Administrative Costs With Guidelines

The worksheet shown on the next page can be used to determine total administrative costs as a percentage of purchased food costs.

## Table III-3

## Administrative Annual Cost Worksheet

A. Salaries of Individuals Involved in Purchasing Activities*

| Annual Salary | | Percentage Involved in Purchasing | | Net | Total Cost |
|---|---|---|---|---|---|
| _____ | x | _____ | = | _____ | |
| _____ | x | _____ | = | _____ | |
| _____ | x | _____ | = | _____ | |
| | | | Salary Total | $ | _____ |

B. Employee Benefits:
(Be sure to include all benefits. Most school district benefits equal 30% of salary costs.)

Annual Salary Total x rate = Employee Benefit Total $_____

C. General and Administrative Costs Charged to Purchasing Activities:
(If these costs are unknown, estimate by multiplying total expenses [not salaries] by percentage of time devoted to food purchasing activities.)

| | Net |
|---|---|
| - Office Supplies | _____ |
| - Data Processing Costs | _____ |
| - Services performed by other departments and charged to Purchasing | _____ |
| - Other Costs | _____ |
| General & Admin. Cost Total | $_____ |

D. Quality Assurance Costs:
(Costs of can-cutting, specification development, inspections, and other quality control activities)

| Cost per Person-day | | Number Person-days | Net |
|---|---|---|---|
| _____ | x | _____ | $_____ |
| _____ | x | _____ | _____ |
| _____ | x | _____ | _____ |
| Other Costs of Quality Assurance | | | _____ |

| | |
|---|---|
| Quality Assurance Costs | $_____ |
| 1. Total Administrative Costs | $_____ |
| 2. Total Cost Purchased Goods | $_____ |
| Divide #1 by #2 = 3. Admin. Cost Percent | _____% |

There are two types of guidelines for measuring administrative costs: by structure and by total purchase volume. Each is summarized below:

Table III-4

Administrative Cost Guidelines

| Type Of System | Guideline* |
|---|---|
| Individual School | 3-6% |
| District | 2-5 |
| Multi-District Joint | 1-4 |
| Multi-District Co-op | 1-4 |
| State | 1-2 |

| Total Annual Dollar Volume | Guideline* |
|---|---|
| $1,000,000+ | 1% |
| 750,000 | 2 |
| 350,000 | 3 |
| 100,000 | 5 |

*Guideline = Administrative Cost as a Percentage of Purchase Costs.

(c) Compare Qualitative Effectiveness with Guidelines

There are certain qualitative features of various purchasing structures that should be factored into the assessment of overall effectiveness. In general, one should expect a higher level of staff assistance with formal specifications and procedures under the larger multi-district systems than under the Individual school system. The table below summarizes how we would rate each factor on a scale of one to ten with ten meaning "Highly Effective" and one meaning "Little or None."

Table III-5

Relative Measurement of
Administrative Qualitative-Effectiveness

| Quality Factors | Administrative Procurement System: Individual School System | Single District System | Multiple-District Purchasing System: Joint | Coop | State Purch. System |
|---|---|---|---|---|---|
| Staff Expertise | Very low 1 | Varies, Gnrly Average 5 | Varies 7 Avg-High | High 8 | High 8 |
| Exchange Price Info. | None 1 | None 1 | High Degree 10 | High Deg. 10 | High Deg 10 |
| Q.A. Programs | None 1 | Varies, Gnrly Minimal 3 | Above Avg.6 | Above Avg. 6 | Above Avg. 6 |
| Staff Training | None 1 | Minimal 3 | Avg 5 | Above Avg.7 | Above Avg. 7 |
| Product Specs. | None to Minimal 1 | Varies 5 | yes 8 | yes 9 | yes 9 |
| Formal Purchs'g Program | None 1 | Varies 5 | yes 8 | yes 9 | yes 9 |

(d) Determine Potential Cost Improvements Through Restructuring the Administrative System

Administration offers little opportunity for cost reduction. If present administrative costs are less than five percent of total food purchases, the only opportunity lies with increasing the total purchase volume with the same administrative base. This could be done by forming a multi-district purchasing system. The savings from such a move would be marginal, however.

(e) Assess
Qualitative Factors

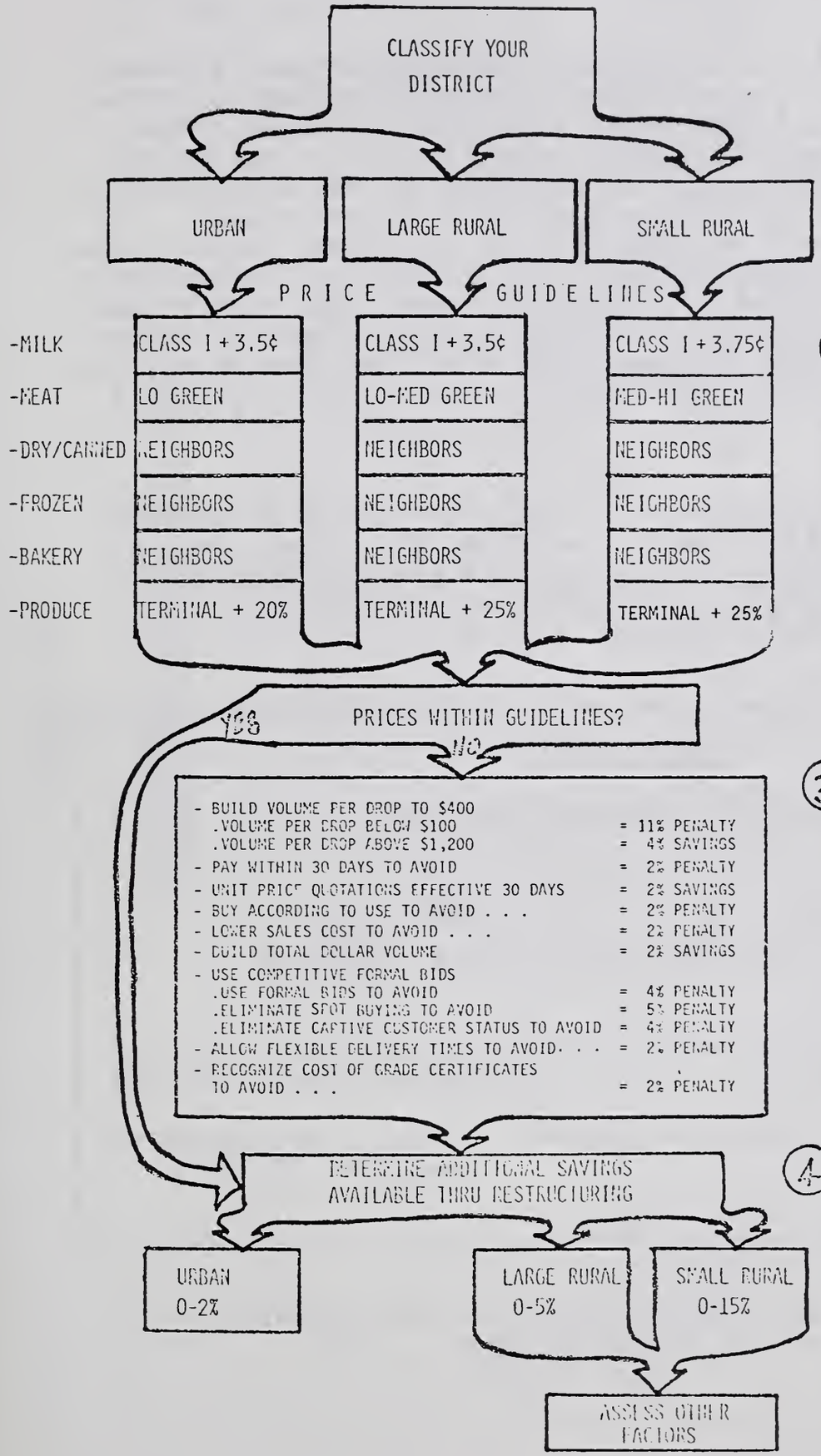
The largest advantage of restructuring is the improvement you might expect in the qualitative aspects of the program. Table III-5 shows the relative rankings of types of systems in these qualitative factors.

## PURCHASING COST MODEL

The purchasing component of the procurement system has the greatest impact on total system costs. The diagram on the next page describes the key elements of the Purchasing Cost Model. Narrative description is on subsequent pages.

Table III-6

Purchasing Decision Model




(1) GEOGRAPHY AND SIZE ARE THE KEY ATTRIBUTES IN CLASSIFYING PURCHASING SYSTEM. SEE TEXT FOR DEFINITIONS.

(2) SEE TEXT AND EXHIBIT III-1 FOR DESCRIPTION OF PRICE GUIDELINES. COMPARE YOUR PRICES TO THEM.

(3) IF NOT WITHIN GUIDELINES, DETERMINE EXTENT TO WHICH YOU ARE FOLLOWING GOOD PRACTICES. IMPROVE THESE FIRST. THEN REVIEW STRUCTURE ALTERNATIVES.

(4) URBAN SYSTEMS HAVE LIMITED POTENTIAL IN STRUCTURE. SMALL RURAL HAVE MOST TO GAIN FROM MULTI-DISTRICT ARRANGEMENTS.

Each of the model steps are described in the following paragraphs.

(a) Determine Present Structure

Two key attributes of purchasing systems have the greatest impact on food costs. These attributes are the market position of purchasing system and the buying practices followed. The effect of purchasing practices will be reflected in the prices paid by the system. These will be assessed in the next section. The market position of the system is a function of total purchasing volume as well as geographical location. Location has more impact than purchasing volume. For example, if a system is located within 100 miles of a Standard Metropolitan Statistical Area (SMSA), then the system will benefit from an active vendor community. For practical purposes, any size district in such an area that follows sound purchasing practices should be able to negotiate minimum food prices.

Districts located outside of a 100 mile radius of an SMSA will find it more difficult to follow these practices, due to lack of vendor competition. For these systems, large purchase volume will be an advantage. These classifications are summarized in the following table:

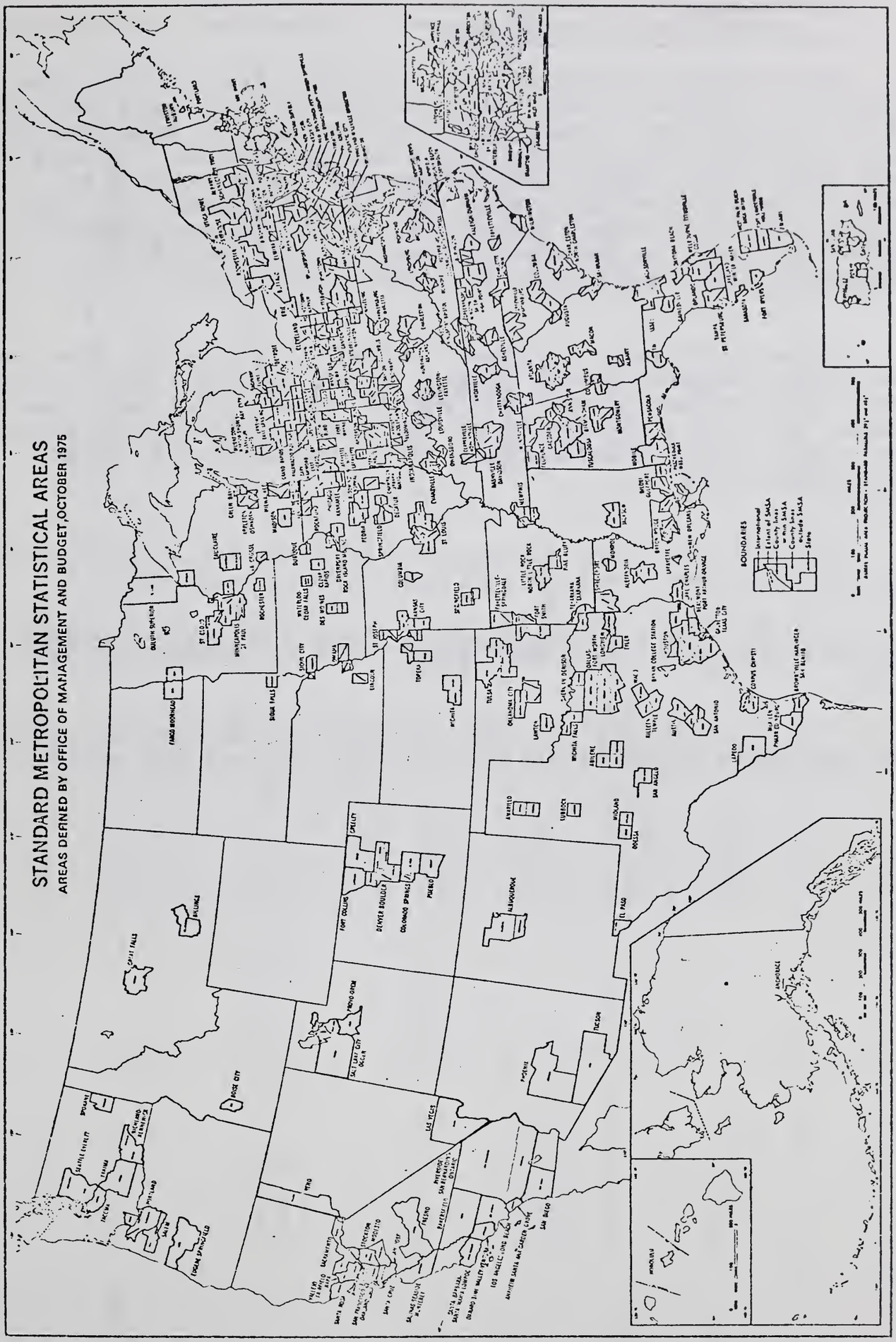
Table III-7

Types of Purchasing Systems

| System Type | Location | Size |
|---|---|---|
| Urban | Within 100 mile radius of SMSA | Not important |
| Large Rural | Outside 100 mile radius of SMSA | Annual Food Purchases Greater than $250,000 |
| Small Rural | Outside 100 mile radius of SMSA | Annual Food Purchases less than $250,000 |

A map of the Standard Metropolitan Statistical Areas is shown in Figure III-1 on the following page.

Figure III-1


STANDARD METROPOLITAN STATISTICAL AREAS
AREAS DEFINED BY OFFICE OF MANAGEMENT AND BUDGET, OCTOBER 1975
BOUNDARIES

(b) Compare Your Food Costs With Guidelines

No universal standards for food costs exist today. The volatility of prices over time combined with the wide variations in product quality, style, container and service requirements make it difficult to develop practical guidelines. Perhaps the best guide is to understand what prices are being paid by neighboring purchasing systems for the same items. For the purposes of this study, however, we have developed general guidelines that can be used to assess prices paid for representative items within the major food groups.

These guidelines are shown in Table III-8 on the next page. You should compare current prices to the sources listed in Table III-8. If current prices fall within these guidelines, then the system is doing a "good" job of purchasing. If current prices are higher than the guidelines, then systems should review purchasing practices.

In addition to the guidelines listed in Table III-8, there are two additional sources for food prices. They are:

1. American Institute of Food Distribution Weekly, P.O. Box 523, Fair Lawn, New Jersey, 07410. (Phone 201/791-5570).

2. Market News, AMS, USDA, Weekly Newsletter on fruits and vegetables at major shipping points and terminal markets.

## Table III-8

## Food Price Guidelines

| Food Group | Food Item | Source of Price Data | Price Guideline by Type of District | | |
|---|---|---|---|---|---|
| | | | Urban | Large Rural | Small Rural |
| Dairy | -Milk, 1/2 pint, whole white | Class I price reported in Dairy Market News. | Class I + 3 1/2¢ | Class I + 3 1/2¢ | Class I + 3 3/4¢ |
| Meat | -Ground Beef, 80/20, Bulk, no TVP<br>-Ground Beef, 75/25, Bulk, no TVP<br>-Ground Beef, 80/20, patty, no TVP<br>-Ground Beef, 75/25, patty, no TVP | "Green Sheet" - Meat Service Report published by National Provisioner; see also "Yellow Sheet," by National Provisioner and USDA Livestock Market News. | Green Sheet<br>Low range | Green Sheet<br>Low to Medium range | Green Sheet<br>Medium to High range |
| Canned | -Canned Fruits and Vegetables | -Neighboring districts<br>-USDA price | -Neighbors<br>-USDA (same) | -Neighbors<br>-USDA + 3% | -Neighbors<br>-USDA + 3% |
| Frozen | -Frozen Fish Filets<br>-Frozen Fruits<br>-Frozen French Fries<br>-Other vegetables | -Neighboring districts<br>-USDA price | -Neighbors<br>-USDA (same) | -Neighbors<br>-USDA + 3% | -Neighbors<br>-USDA + 6% |
| Fresh Produce | -Fresh Fruits and Vegetables | USDA Fruit and Market News for most current prices for local terminal market | Local + 20% | Local + 25% | Local + 25% |
| Bakery | -Bread<br>-Hamburger Buns<br>-Hot Dog Buns | Neighboring Districts | Neighbors | Neighbors | Neighbors |

### (c) The Potential for Reducing Costs Depends on How Well You Are Following the Rules of Good Purchasing Practice

There are nine key buying factors that have major impact on food prices:

1. Volume per Drop.
2. Payment Time.
3. Duration of Price Quotations.
4. Quality Specifications.
5. Sales Costs.
6. Total Purchase Volume.
7. Competitive Bidding.
8. Delivery Time.
9. Quality Control.

Each is further discussed in the following paragraphs:

1. Volume Per Drop. Delivery costs are a significant percentage of the actual purchase price of the product. For many institutional distributors, transportation represents the largest operating expense. Since most of this cost is a fixed cost associated with the delivery, a larger volume per delivery will reduce the transportation expense relative to the value of the delivery. Therefore, systems that are able to increase the average dollar volume per vendor drop tend to receive the benefit of lower vendor costs through lower prices.

For example, discussions with school personnel and vendors indicate that an average value per drop of $100 or less will result in unit prices that are up to 11 percent higher than if the average drop is $400. Increasing the drop value to $1,200 will result in unit prices that are 4 percent lower than the $400 level. Most school systems are able to build volume per drop to the $400 level through minimizing the number of vendors and/or the frequency of deliveries. For a cafeteria feeding only 160 students per day, a one week order cycle is equivalent to a $400 delivery. For an even smaller cafeteria, feeding 80 students, an order cycle of every other week increases the volume per drop to $400. As these examples illustrate, an average delivery size of $400 is feasible for even the smallest schools.

An average delivery size of $1,200 may be more difficult for school systems to attain due to individual storeroom constraints or limited lunchroom participation. A $1,200 delivery would require a minimum of 240 daily meals for cafeterias on a biweekly order cycle or 480 daily meals with a weekly order cycle. Nevertheless, many school systems are able to increase their average volume per drop to $1,200 to achieve these potential savings without expanding current kitchen storeroom facilities. These findings do not suggest that schools ought to expand their existing kitchen storerooms to achieve these savings because the incremental storage costs would likely outweigh the potential transportation savings.

2. Payment Time. Consistent failure to pay invoices within the normal 30 day period will generally result in higher prices. Kearney discussions with both industry and school personnel indicate that the amount of this increase is approximately two percent per month. This penalty should not be confused with finance or service charges normally assessed by retailers for credit purchases. Food distributors generally do not extend credit in this fashion. They are "cash-and-carry" operators who must hedge against the slow paying customer by building a penalty into the purchase price. Customers who consistently fail to pay on time will incur this penalty without being aware of it.

3. Duration of Price Quotations. Systems that are able to reduce the effective period for price quotations appear to benefit. The amount of the benefit will depend on the food commodity and local market conditions. For example, prices for fresh produce fluctuate daily. Fixed prices for longer periods (if possible) would command prohibitively high premiums. Prices for other staples, on the other hand, can remain constant for months.

If a customer is able to accept fixed prices effective for periods less than 30 days, prices will be lower on an average by about two percent. This factor represents the average "safety" factor the vendor uses to hedge against price changes from his suppliers. Thus, with longer periods the customer pays two percent protection automatically, but does not receive the benefit if prices fall during the period.

4. Quality Specifications. Knowledgeable food buyers agree that specifying the appropriate quality product will have the greatest impact on prices. The objective of a quality specification is to determine the product quality which is most appropriate for its intended use. Overbuying on quality will result in significant cost penalties. Under-buying quality will result in unacceptable products and higher waste costs.

Examples of differences in quality are as follows:

- $.50 per case cost difference between Grade A and Grade B on canned fruit and vegetables, depending on product availability.

- $.45 per case (approximately ) cost difference between different sieves or cuts (e.g., No. 4 sieve versus No. 3 sieve.)

- $1.00 per case, or higher, savings available by taking advantage of special buys such as irregular slices peaches, mixed sieve peas, or random cut green beans.

- Two percent (2%) additional cost incurred by specifying a brand not normally carried in stock by the supplier.

5. Vendor Sales Costs. Vendor sales personnel provide the valuable service of keeping the customer up to date on new products, market trends, and usage ideas. This service is not entirely "free," however, in the sense that an excessive number of visits will increase vendor operating costs, as well as reduce customer time devoted to other activities.

Systems that are able to reduce vendor sales calls have lower costs than those which require frequent sales visits to all locations. Excessive sales activity appears to result in costs that are up to two percent higher.

6. Total Purchase Volume. A frequently stated rationale for forming large multi-district purchasing systems is that larger total buying volume will result in lower prices. This rationale is true only at volumes that are beyond the practical limits of most school systems.

To the extent the school system volume can help a distributor purchase in full rather than half rail car quantities, benefits will accrue to the distributor in the form of lower freight costs. These savings can reach two percent of the purchase price. Few school procurement systems can generate this volume, however, and it is questionable that the vendor would pass on these savings if the school system merely "helped" generate the volume. The key volume buying factor is the volume per drop (mentioned previously), rather than the total system volume.

7. Competitive Bidding. Open and active competition among vendors is the key ingredient in assuring the lowest possible prices. Geography certainly is important to this factor, in the sense that urban systems will have more of the benefit of an active vendor community than some rural systems. Several additional key factors emerge that impact the effect of competition, however:

- Bid Procedures. Formal sealed competitive bids result in lower prices. These procedures generally have prescribed guidelines for evaluation and active competition. Failure to use this procedure can result in prices that are up to four percent higher.

- Open Market Buying. Purchasing products on the open market without any form of competitive bid procedure generally results in a five percent price premium.

- Captive Customer. "Captive" status refers to the complete absence of competition. A "captive" customer will probably pay the highest cost premium of an additional four percent. Many systems employ the previous techniques to ensure open competition while awarding the business to a prime vendor. This appears to be effective.

8. Delivery Time. Special delivery requirements tend to cause higher prices. By understanding the nature of the distributor's schedule, a customer can avoid extra cost. The normal scheduling by institutional distributors is to make all deliveries early in the morning, with most restaurant customers receiving late week delivery (Thursday/Friday) in order to meet their high volume weekend business. The distributor is attempting to smooth out route scheduling to avoid slack time at the beginning of the week and peak delivery commitments at the end of the week. Therefore, a school system could seek favorable pricing by remaining flexible as to delivery time and day.

9. Quality Control. Certain quality control procedures, while effective, can increase the price paid. Some systems incur additional costs due to such procedures. For example, USDA grade certificates add up to two percent to the purchase prices as shown below:

Table III-9

Cost of Grade Certificates

1-100 Cases = $36.50 ($.37 per case at 100 cases)
101-400 Cases = $50.74 ($.13 per case at 400 cases)

Source: USDA Agricultural Marketing Service

This can be an effective means of verifying product quality, as long as the cost is recognized.

The precise cost impact of each of the buying factors discussed in previous paragraphs is difficult to quantify because factors rarely operate independently on price. A given system can be reducing cost with one factor and increasing it with another. In addition, buying factors can operate in two directions, cost savings or cost avoidance. To put these in perspective, one must view the total pricing structure of the typical institutional distributor.

Discussions with industry sources and review of public financial information indicate that the average markup for institutional distributors is approximately 17 percent over the manufacturer price. The practical minimum markup available to school procurement systems is in the neighborhood of 12 to 13 percent. There is no maximum, however. The maximum appears to be a function of the buying factors. A school procurement system can reduce the markup by employing certain factors and, by the same token, increase the markup by failure to apply others.

The effect of these factors is summarized on the following page.

Table III-10

Summary of Effect of Buying Factors on Vendor Markups

| Factor | Potential Savings | Normal | Potential Penalty |
|---|---|---|---|
| 1. Volume per Drop | | | |
| - Under $100 | - | 0 | +11% |
| - $400 | - | 0 | - |
| - Over $1,200 | -4% | 0 | - |
| 2. Prompt Payment | | | |
| - Within 30 days | - | 0 | - |
| - Over 30 days | - | 0 | + 2%/mo. |
| 3. Pricing | | | |
| - Quarterly | - | 0 | - |
| - Monthly or less | -2% | 0 | - |
| 4. Quality Specifications (depends on current specs) | - | 0 | + 2% |
| 5. Vendor Sales Costs Excessive visits | - | 0 | + 2% |
| 6. Total Dollar Volume Railcar quantities | -2% | 0 | - |
| 7. Competitive Bidding | | | |
| - No formal sealed bids | - | 0 | + 4% |
| - Open market buying | - | 0 | + 5% |
| - Captive customer | - | 0 | + 4% |
| 8. Delivery Times | | | |
| - Inflexible | - | | |
| - Early a.m., early week | - | 0 | + 1% |
| 9. Quality Control Grade certificates | - | — | + 2% |
| Totals | - 8% | 0 | +33% |
| Starting Markup | 17% | 17% | 17% |
| Calculated Range | 9% | 17% | 50% |
| Practical Range (due to cumulative factors) | 13% | 17% | 50% |

### (d) Rural Systems Can Benefit From Larger Structures -- Urban Systems Probably Won't

There are two reasons why schools might consider forming a multi-district purchasing system:

1. Total volume. If the system is able to generate extremely large volumes that would allow railcar quantity orders, there is a potential savings of two percent. These savings are not available in less than railcar quantities, however.

2. Market position. If the system is outside an active vendor community, i.e.,"rural" according to the model criteria, then multi-district systems create a volume which will encourage vendor interest and thus lead to more effective buying practices. The magnitude of savings available to the rural systems ranges from a maximum of 5 percent for large rural systems to 15 percent for small rural systems. Therefore, this model suggests that urban systems can achieve the practical minimum prices available by employing the effective buying techniques discussed in Section IV. Rural systems, however, will find potential in multi-district arrangements.

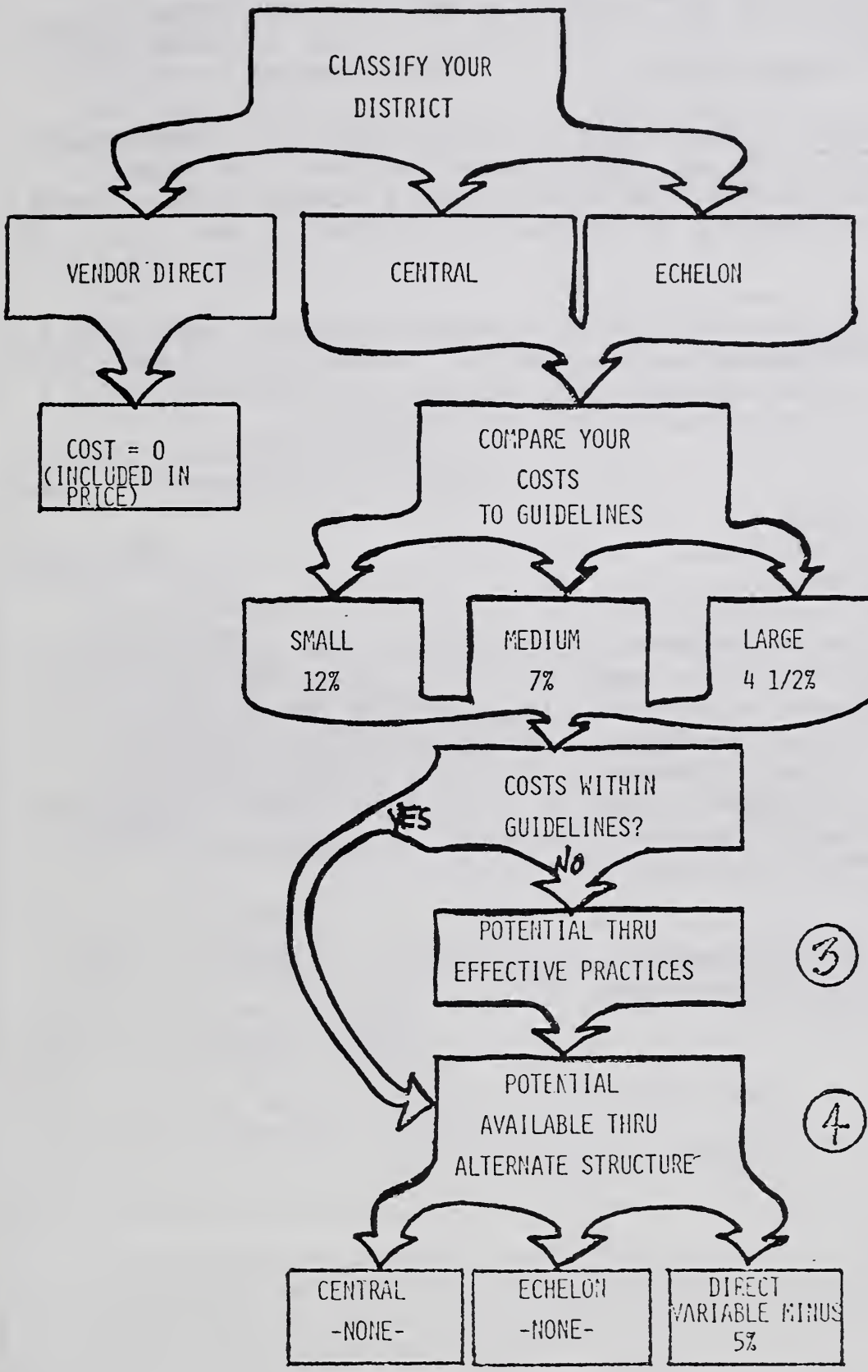
The particular form of organization to take is more a practical question of staff availability than cost. There are no major cost differences by type of organization structure. If staff is available to administer a joint program, this appears to be the easiest group to form.

## DISTRIBUTION COST MODEL

Distribution is the final component in the Procurement System. The diagram on the next page describes the key elements of the Distribution Cost Model. Narrative description is on subsequent pages.

## Table III-11

## Distribution Decision Model




1. ALL DISTRIBUTION FALLS INTO THREE CATEGORIES. SEE TEXT FOR DEFINITIONS.

2. SEE TEXT FOR COST WORKSHEET. GUIDELINES REFLECT SIZE OF OPERATION. COST MEASURED AS PERCENT OF VALUE OF FOOD DISTRIBUTED.

3. THERE ARE MINIMAL OPPORTUNITIES TO REDUCE COSTS DUE TO INHERENT DISADVANTAGES OF SCHOOLS

4. THE ONLY COST REDUCTION OPPORTUNITY IS TO ELIMINATE SCHOOL-OPERATED SYSTEM. MAGNITUDE IS YOUR VARIABLE COSTS LESS THE 5 PERCENT VENDOR COST.

(a) Classify Your District

Determine which system definition best fits your district:

1. Direct delivery. The school has no distribution facilities and relies on the vendor to deliver the product directly to the point of use. The cost of this service is included in the purchase price.

2. Central. The school system operates a warehouse and a transportation system. The vendor delivers to the warehouse where the product is stored until needed. The district then transports the product from the warehouse to the point of use.

3. Echelon. The school system operates two levels of warehousing and transportation networks. Vendors deliver to the echelon warehouse which stores the product until it is transferred to the individual district warehouse.

(b) Compare Your Distribution Costs With Guidelines

The average cost of direct delivery (which is included in the price of the product) is approximately five percent of the purchase price. School-operated distribution networks do not achieve enough savings to offset the costs of the system. Therefore, if the school system is using a direct delivery system, it should continue to do so. Systems that are already operating a distribution system (central or echelon) should review the cost of the network.

Distribution costs should be calculated according to the worksheet shown on the next page.

## Table III-12

## School District Distribution Annual Cost Worksheet

| | | | |
|---|---|---|---|
| **Transportation** | | | |
| - Fixed Costs: | | | |
| . Equipment Depreciation | _____ | | |
| . Indirect Labor | _____ | | |
| . Insurance | _____ | | |
| . Other | _____ | | |
| Total Fixed Costs | | _____ | |
| - Variable Costs: | | | |
| . Fuel & Oil | _____ | | |
| . Maintenance | _____ | | |
| . Tires | _____ | | |
| . Direct Labor | _____ | | |
| . Other* | _____ | | |
| Total Variable Costs | | _____ | |
| Total Transportation Costs | | | _____ |
| **Warehouse** | | | |
| - Fixed Costs: | | | |
| . Depreciation | _____ | | |
| . Utilities | _____ | | |
| . Maintenance | _____ | | |
| . Interest & Insurance | _____ | | |
| . Inventory Carrying Costs** | _____ | | |
| . Equipment & Supplies | _____ | | |
| . Indirect Labor | _____ | | |
| . Other* | _____ | | |
| Total Fixed Costs | | _____ | |
| - Variable Costs: | | | |
| . Direct Labor | _____ | | |
| . Other* | _____ | | |
| Total Variable Costs | | _____ | |
| Total Warehouses Costs | | | _____ |
| Total Distribution Costs | | | _____ |
| Total Dollar Value of Merchandise Handled per year through Distribution | | | _____ |
| % Distribution Cost | | | _____% |

*In "other" expenses, use 30 percent of labor cost to get an estimate of employee benefits if actual figure is unknown.

**Use five percent of dollar value of average inventory for inventory carrying cost.

Note that the Worksheet includes fixed and variable costs. It is important to distinguish between these costs in subsequent analysis.

The cost calculated above should be compared to the following guidelines:

Table III-13

Distribution Cost Guidelines

| Type School System | Annual Number Cases Handled | Distribution Cost Guidelines, as Percent Food Costs |
|---|---|---|
| Small | 6,000 | 12 % |
| Medium | 25,000 | 7 |
| Large | 200,000 | 4.5 |

These guidelines are based on Kearney's synthesis of costs incurred by the better-run schools, interviews with institutional distributors, and prior studies. If district costs are within these guidelines, there is a reasonable assurance that the network is "well-run" and opportunities for efficiency improvement are minimal. If district costs exceed guidelines, serious consideration should be given to restructuring.

### (c) The Best Approach Is to Avoid School-Operated Distribution

As mentioned earlier, all evaluation data strongly indicate that schools refrain from building a new school-operated network if they are relying on direct delivery today. The potential for cost improvement by abandoning an existing network depends on the variable portion of the current distribution cost. If the total variable costs of the present system exceed five percent of the value of food being distributed, then it would be cost-effective for the district to stop distribution and rely on direct delivery. Even thorough the fixed costs of the warehouse would continue be be incurred, the total cost of distribution would decline by the amount that variable costs exceed five percent.

# IV - BASIC PROCUREMENT GUIDELINES

The purpose of this chapter is to provide practical implementation guidance to the School Food Director on how to utilize the factors described in the models in order to improve performance. This chapter is divided into the following sections:

Buying Techniques

Purchasing Management Procedures

Quality Assurance

## BUYING TECHNIQUES

There are nine key techniques that will help you minimize your food costs:

- Increase volume per drop.
- Pay promptly.
- Avoid firm pricing beyond 30 days.
- Buy according to use.
- Minimize sales cost.
- Build total purchase volume.
- Use competitive bidding.
- Allow flexible delivery times.
- Recognize the cost of grade certificates.

Implementation methodology for adopting these buying practices are summarized in the table on the following pages.

Table IV-1

How to Implement Key Buying Techniques

| Buying Technique | How To Do It |
|---|---|
| Build Volume per Drop | -Minimize the number of vendors servicing a school by changing the bid award procedures from line item selection to an aggregate all-or-none bid award format.<br><br>-Minimize the number of school stops by centralizing food preparation, e.g., using production kitchens and satelliting the food to other schools.<br><br>-Minimize the frequency of delivery by taking delivery weekly instead of daily, monthly instead of weekly. This can be achieved through better utilization of existing kitchen storeroom space. |
| Pay Promptly | -Obtain approval on estimated cost of goods then submit invoice to school board after payment has been made.<br>. Establish an imprest account from which the food purchasing director has check issuing privileges.<br>. Establish a revolving account with periodic replenishment (variation of the imprest account.) |
| Avoid Firm Pricing Beyond 30 Days | -Issue 30 day contracts on a firm price basis. Contracts are awarded each month on a firm price basis which is for the month. Each month, vendors are solicited, bids evaluated, and contracts awarded. (This method is time-consuming.)<br><br>-Utilize long-term contracts with monthly escalator clauses. The bid is awarded with the contract stipulating that the purchase price is subject to monthly review. Monthly prices can be escalated or de-escalated depending on market prices. The vendor must submit manufacturer's invoices, upon request, to school systems to validate price changes. |

| Buying Technique | How To Do It |
|---|---|
| Avoid Firm Pricing Beyond 30 Days (Cont'd) | -Cost-plus contracts, meaning the vendor's selling price is a fixed percentage point above his cost basis.<br>. The supplier must submit manufacturer's invoices to the school system for review.<br>. This method requires agreement on the supplier's cost basis and the percentage of markup.<br><br>-Double-contract (variation of cost-plus.)<br>. One contract is awarded to the manufacturer for purchase of the product. The contract price is based on current cost of goods.<br>. A second contract is awarded to institutional distributor for all the handling and distribution costs. This contract is either at a firm price or a fixed percentage of the value of the purchased goods. |
| Buy According to Use | -Understand cost differences between various quality levels (e.g., grades, sieves, and cuts) and buy the best product for intended use. This is best done by doing the following:<br>. Attend can-cutting, taste demonstrations and other educational seminars to increase knowledge about product quality.<br>. Solicit bids on different quality grades to determine the price differences.<br>. Determine food service needs on the basis of quality and price.<br>. Develop good specifications for the selected quality of product.<br>. Communicate to vendors your potential interest in special buys. |

| Buying Techniques | How To Do It |
|---|---|
| Minimize Sales Costs | -Eliminate or minimize sales calls by using one of the following methods:<br>. Make all buying decisions at the school district level so there is no reason for salesmen to call on individual schools.<br>. Eliminate open market purchasing by using a formal, competitive vendor selection routine (e.g., sealed bids or price quotations.) This terminates salesmen's incentive to "cold" call in hopes of generating orders.<br>. Place orders by phone. |
| Build Total Volume | -Increase participation in school lunch program by:<br>. Improving acceptability of meals.<br>. Utilizing a la carte options.<br>. Better merchandising of the school lunches.<br><br>-Expand the food service program in one of the following ways:<br>. Adding the school breakfast program.<br>. Providing school lunches at schools currently without food service.<br>. Adding summer feeding, elderly feeding, and other federal programs.<br><br>-Restructure the current administrative structure of the purchasing system:<br>. From individual school purchasing to single district purchasing.<br>. From single district purchasing to a multiple district purchasing system. (Refer to the Purchasing Model for implementation details.) |

| Buying Techniques | How To Do It |
|---|---|
| Use Competitive Bidding | -Adopt a bid program to minimize potential abuses in vendor selection:<br>. Develop good product specifications.<br>. Solicit bid responses from all qualified vendors.<br>. Develop formal guidelines for evaluating vendors.<br>. Develop criteria for disqualifying vendors. |
| Avoid Spot Buying | -Advance menu planning in order to anticipate order needs and avoid spot, or emergency purchases:<br>. Plan menus at least two weeks in advance of ordering.<br>. Order only according to menu selection.<br><br>-Implement a structured buying program such as one of the following:<br>. Use a formal sealed bid procedure (minimum of four vendors.)<br>. Use an informal price quotation method (minimum of three vendors.) |
| Avoid Captive Customer Status | -Use at least four sources of supply (if possible.)<br><br>-Implement a structured buying program such as one of the following:<br>. Use a formal sealed bid procedure (minimum of four vendors.)<br>. Use an informal price quotation method (minimum of three vendors.)<br><br>-Avoid designing specifications in which only one vendor can meet the requirements. For example specifying only one brand as acceptable should be "X Brand or Equal."<br><br>-Review purchasing policies to ensure that special service requirements, delivery terms, or other factors are not limiting competitors. |

| Buying Techniques | How To Do It |
|---|---|
| Avoid Captive Customer Status (Cont'd) | -If only a single-source supplier exists, determine that the price is fair and representative. Methods of determining a fair price are listed below:<br>. Contact other school districts in the state for price information.<br>. Refer to USDA publications and other published price data for comparison of reasonableness. USDA Milk Marketing News/Fruit and Vegetable Market News/ Livestock Market News/ Poultry Market News; National Provisioner's "Yellow Sheet"; Washington Report, Pacific Fruit News. |
| Allow Flexible Delivery Times | -Allow vendors to make early deliveries. Methods to allow this are:<br>. Arrange to have cafeteria personnel or school custodian available to receive merchandise before 7:30 a.m.<br>. Provide storeroom keys to delivery drivers.<br><br>-Allow deliveries during the lunch hour.<br><br>-Make arrangements for delivery early in the week.<br><br>-Negotiate delivery schedules with suppliers; if feasible, arrange for deliveries on vendor's slack days. |
| Recognize the Cost of Grade Certificates | -Develop alternative quality assurance programs such as the following:<br>. Train cafeteria managers to improve their expertise in judging food quality.<br>. Monitor purchase foods to confirm acceptability according to product specifications.<br>. Perform random can-cuttings on received merchandise.<br>. Develop pre-qualified vendors' list in order to limit business to reputable vendors.<br>. Prequalify products so only acceptable products will be purchased. |

PURCHASING
MANAGEMENT GUIDELINES

The function of any school purchasing system is to successfully obtain the right product in the right quality and quantity, at the right price, from the right source at the right time in accordance with all applicable laws, regulations, and policies.

The key factors in the six basic purchasing decisions that must be made every time a need arises are summarized in the table on the next page.

Table IV-2

Summary of Basic Purchasing Decisions

| Purchasing Decision | Key Factors |
|---|---|
| Price | .Best responsive price in terms of quality and service.<br>- Not necessarily the lowest price.<br>- Requires a balancing of price against quality demanded and service required. |
| Source | .Supplier that can offer the best price in terms of quality/service/price.<br>.Supplier judged by service provided against services required. Other considerations are product availability and additional costs incurred by the district (distribution and administrative costs). |
| Quantity | .Function of ordering needs, storage capacity, and per unit cost.<br>.Potential volume discounts weighed against potential costs (district distribution and administrative costs). |
| Product | .Measured by customer acceptability, storage capacity, product availability, preparation time and cost. |
| Time | .Determined by ordering needs and product availability.<br>.Factors involved - safety stock levels, delivery lead time required, and market conditions (falling/rising prices).<br>.Timed to coincide with new season's pack (e.g., October/November for canned fruits and vegetables.) |
| Quality | .Grade, cut, or sieve differences.<br>.Matching best balance of quality and price. |

The purchasing activities found in the procurement system are concentrated into four areas:

- Vendor Selection
- Product Ordering
- Inventory Management
- Contract Procedures

Each of these areas are fundamental to a sound purchasing management system. These activities are detailed below.

(a) The Four Keys to Vendor Selection

There must be a good relationship between supplier and customer. In order to develop this good relationship it is necessary for a food service manager to carefully select vendors:

1. Vendors Must Be Qualified. Vendors who are eventually awarded the bid must be both reputable and reliable. Vendors must be reliable in terms of quality, quantity and service. They must be able to provide the specified quality of merchandise. They must meet delivery requirements as to timing of delivery and the right quantity of goods. They must provide the services required by the customer.

2. Vendors Must Be Cost Effective. Vendors must be able to meet the competition by offering the best responsive price. Most customers recognize that the best price is the one that offers the best combination of service, quality, and price. A low price bid resulting in unacceptable product quality or unavailability of product is not the best responsive bid. Cost must be reviewed in terms of cost per serving, not cost per case. The customer must recognize the importance of can count, drained weight or yield in making a determination of the real cost of the product.

3. School Districts Must Be Responsive. School districts have certain responsibilities toward their vendors that must be met if the districts are to operate effectively. If the school district wishes to strengthen vendor relations it must honor its contract once the bid has been awarded. By building volume with primary and secondary suppliers, the director of the school food procurement system then has the leverage to demand better service and minimal stockouts. The key to effectiveness is avoiding demands on a vendor which will increase operating costs and therefore increase the district's purchase costs. A food service manager, to solicit adequate vendor response, must make the school district's business attractive by using

reasonable service requirements, by understanding the vendors concerns, and by maximizing sales volume for the long term.

4. School Regulations Need Not Hamper Vendor Selection. Most school purchasing systems are constrained by the requirements of ensuring open competition, using formal sealed bids, making public all purchasing information, and guaranteeing the impartiality of bid awards. Food service directors can still improve their vendor selection process within the framework of these regulations. The following are examples of how this can be done:

- Open the bid to all vendors, but once the bid is awarded, closely monitor the supplier as to quality and service.

- Use a formal sealed bid, but specify that the bid is awarded on an aggregate basis (i.e., all-or-none bids), and not by line item.

- State the basis for award in the bid, e.g., "best responsive bid, as determined by school district, on the basis of quality, service and price."

- Have vendor disqualification procedures and enforce them. If a vendor is not reliable or reputable then suspend them from the bid for a specified period:

  . Make vendor complaint forms available to cafeteria managers.

  . File complaint forms and use these records as justification for a vendor's suspension.

- Inspect vendors' sites, develop your knowledge of their business and their pricing structure.

- Examine the feasibility of renegotiated contracts.

### (b) The Three Keys to Effective Ordering

The major elements in product ordering are product selection, quantity determination and menu planning:

1. Product Selection. In making the product selection, the quality should be specified according to USDA or

industry standards. In most cases, deviation from these specifications results in either higher costs or lower bid response. By following published standards it is easier to judge the quality of product being received.

The following are practical guidelines in product selection:

(a) Buy only the actual quality needed. if it is possible, take advantage of the lower prices on irregular slice peaches, mixed sieve green peas, or random cut green beans. The quality of these products are often just as good as regular sliced peaches, #4 sieve green peas, or 1 1/2 inch cut green beans. The key point to remember is spend time to determine what is needed, then buy only that quality.

(b) Price also must be viewed as a criteria. If the quality of two products are equal then the one with the lower price obviously becomes the better buy. As mentioned under Vendor Selection, cost per serving is the prime factor in price comparisons. Drained weight, product count and yield are three means of determining cost per serving.

(c) Monitor Student Acceptance. A food service director can satisfy all the requirements of a Type A lunch and still prepare a good, well-accepted meal at a relatively low cost. This is accomplished by carefully weighing the factors of price, quality and acceptability in product selection.

By product group the following guidelines can be utilized for effective purchasing:

(a) Dry and Canned Goods. Because of the generally low profit margin on these items, the best price can be achieved by purchasing a good product mix and attempting to maximize the size of the average delivery. By using aggregate bids, rather than line item, on a full-line of products both objectives can be accomplished. An additional element of good buying is active vendor competition. The more

suppliers competing for the business, the better the prices tend to be.

(b) Frozen Foods. Probably the most important consideration in buying frozen foods is how to build the volume per delivery, and the consensus seems to be use full-line suppliers. Often school districts will group their frozen food items and meat items together in a joint bid in order to achieve this larger volume per drop. The enthusiastic participation of vendors in the bid is important for better buying of frozen foods.

(c) Dairy Items. More milk is consumed in the School Lunch Program than any other item. Therefore, any reductions in its purchase price is going to be very important. Several steps, if followed, will result in a lower purchase price on milk:

- Do not take daily delivery. Try to minimize deliveries to two to three per week.

- Own your own coolers rather than renting them from the dairies. (Nonfood assistance funds may be used to finance this.)

- Recognize that the percentage cost difference between two percent nonfat and whole white milk is almost five percent (based on a sampling of 106 dairies across the United States). Then make your buying decision on the basis of both price and acceptability.

- Do not use an annual firm price bid. Use an annual bid with a monthly escalation clause tied to the Class I raw milk prices.

(d) Meat Products. Most schools purchase only a limited range of meat products, primarily ground beef (bulk and patty), frankfurters, salami, chicken, and fish portions. For these products, several buying guidelines should be followed:

- Use standard specifications for the following products: For beef products, use the IMPS which are meat specifications developed by the USDA in cooperation with the meat industry. For chicken, use specifications from either the National Broiler Council or USDA. For fish portions, purchase these Packed Under Federal Inspection (PUFI) or U.S. Grade A. (This is under the U.S. Department of Commerce.

- Always purchase products in the frozen, rather than fresh state for quality assurance.

- Try to maximize quantity purchased as many meat processors do give quantity discounts.

- If the price spread is greater than $.05 per pound on ground beef, reject all bids. (All meat suppliers are paying essentially the same price for their products so if the price varies by more than $.02 per pound, this indicates that they are not all bidding with the same quality of product.)

- Deal only with reputable vendors.

- Use competitive bidding methods.

(e) Bakery Products. The two more important elements in buying bakery products are: use only standard specifications and be flexible in delivery requirements.

(f) Fresh Produce. Due to the perishability of produce and its price volatility, school districts are limited in their approach toward purchasing fresh produce. However, even under these constraints the customer can still take steps to get the best possible price:

- If feasible use a cost plus contract on an annual basis. If not feasible, use weekly price quotes

from three or more vendors as the method of bid solication.

- Award fresh produce bid on an all or none bid basis.

2. Quantity Determination. To determine quantity, the following facts must be known: number of meals served, storeroom capacity, safety stock level*, order cycle time**, and optimum order quantity. A simple formula for food service directors to use is:

Number of cans needed for meal preparations
- Less number of cans on hand
+ Plus number needed till delivery can be made (Replenishment Cycle)
+ Plus number needed as a safety factor (may be 0)
= Quantity to order (round off to the number of even cases so as to avoid a premium cost for partial cases).

The above formula may have to be adjusted due to other considerations such as minimum size orders or large volume special buys.

3. Menu Buying. Menu planning allows a food service director to determine ordering needs. The earlier a menu is planned, the better able a school district is to anticipate food needs and order accordingly. No menu should be planned less than two to four weeks ahead of required delivery date unless an unanticipated shortage of a food product forces a menu change.

The school system should also have flexible menu planning. This allows schools to take advantage of special deals from vendors or unexpected arrivals of government donated foods. A reserve supply of shelf staple items adequate for a complete lunch should be available for emergency.

---

*Minimum level of inventory required to prevent running out of merchandise.

**The elapsed time between the ordering and receiving of merchandise.

(c) How to Manage Inventory

Another important administrative activity is inventory management through the establishment of reorder formulas:

1. Why Establish Reorder Formulas? By determining order patterns for schools, a food service director is able to:

- Prevent stockpiling of slow moving items.
- Minimize the occurence of stockouts.
- Ensure better utilization of storeroom facilities.

2. How to Establish Order Patterns? The simplest method of determining order patterns is to utilize a perpetual inventory control system. An added benefit of this system is that it ensures that each school cafeteria manager always knows the current inventory level.

(e) Contract Procedures

School systems use several different types of contracts to award bids to vendors:

1. Formal sealed bids are the most competitive bid method. Many vendors are invited to participate by submitting a sealed letter containing bid responses. These bids are then formally opened at a public meeting and the bid is awarded. The advantages of this bid method are that it encourages competitive bidding by vendors and meets the criteria of open competition and inpartiality. While often the best method of awarding bids, it is generally the most time consuming of any bid method.

2. Competitive price quotes is a method in which a minimum of three vendors are requested to quote a price on the bid items. The bid is then awarded to the best responder. This is the most cost-effective method of bid solicitation. The advantages of this method are that it allows the school system to narrow bid solicitation to the most qualified suppliers, while still encouraging competitive bidding from these vendors.

3. Negotiated bids are used when only one or two suppliers distribute the particular product being purchased. The school district then negotiates with the vendors to get the best price possible. This bid procedure is frequently used by other purchasing entities, but is a relatively new concept to school districts. While this bid method exists as a viable alternative to open market purchasing, many state and local government laws do not allow it because this method requires an awareness of what is a reasonable and fair price. To be effective it requires

more expertise than other methods -- more personal judgment is required, and the decision is less clear-cut.

4. Spot buying occurs when a school system simply places an order with one vendor without soliciting other bids or negotiating the price. This method is not only the least cost-effective means of buying, but it exposes the food service manager to charges of limiting competition and not acting impartially.

## QUALITY ASSURANCE

Quality assurance programs are those procedural steps necessary to ensure the receipt of a proper quality level of merchandise. There are three basic elements to a quality assurance program:

- Specification
- Inspection
- Testing

### (a) What is Quality Assurance?

Quality assurance (QA) is a structured series of actions considered necessary by a school district, to provide adequate confidence that a product that has been purchased will be suitable for its intended use. The degree that a school system is successful in implementing these actions will determine the level of assurance that the quality purchased is the quality needed in the School Lunch Program.

### (b) How a Quality Assurance Program Works

There are two phases of activity in an effective QA program. The first phase takes place before the Invitation for Bid is sent out to vendors, and consists of the development of specifications, which will describe the required product to the potential supplier. The second phase, testing and inspection takes place after the the vendors' bid prices are received. These procedures are used to determine:

- If the vendors' merchandise meets the purchaser's needs before the awarding of the bids.

- If the purchaser is receiving the quality and quantity of goods agreed upon in the contract following the award of the bid.

The first phase will fail without the second and the second phase will not work without the first.

(c) Phase I - Developing Specifications

Specifications are used to communicate to the supplier the nature of the product required by the purchaser. They are the basis upon which the vendor's bids are prepared and are later used in determining whether the vendor's bids are responsive. Specifications are also incorporated into the final contract and provide a control on the quality of the goods delivered under the contractual agreement.

Generally, the schools that seem to have the worst problems controlling the quality of their food are those whose specifications are inconsistent, inadequate, or non-existent. The attitude that specifications are not necesary because the school cafeteria managers and cooks are capable of judging the quality of the food with which they were dealing is all too prevalent. It is commonly expressed that vendors do not need specifications because "they know what we need." However, the lack of good specifications often costs a school system money, either in terms of product unacceptability (higher plate waste) or amount of servings per case (lower yield per unit).

There are several long-range benefits in having good specifications. The major benefit (and cost saving) is that the school system is more likely to get what it needs and what it pays for. Moreover, specifications provide the school system with a lever to force the vendor to make reparation for goods which fall short of the contracted requirements. Without specifications, the school system personnel can have no clear idea of what to expect from the purchased product, so that it is not difficult for the vendor to deliver inferior products.

A good specification includes the following information:

1. Short, clear written description of the desired product.

2. Quality of the product using either USDA or industry standards.

3. Pack size desired, expressed in can size, pounds, etc.

4. If known, the desired yield per unit, expressed in terms of can count and drained weight.

An example of a good specification is shown in the table below:

Table IV-3

Sample Specification

| Description | Example |
|---|---|
| Food Item | Peaches |
| Variety | Yellow Cling |
| Type of Product | Halves |
| Can size and pack | 6/10 |
| Grade | U.S. Grade A (Fancy); extra heavy syrup |
| Drained weight | D.W. 64 oz.min. |
| Pack description | California Pack |
| Product count or seive | Count range 30-35 |
| Score (optional) | 90 or better |

One important point about developing specifications is that the specified quality level should be suited to the intended use of the product. Specifying either too high or too low a quality level of food is a wasteful practice. Food of obvious low quality is likely to be rejected, while unnecessarily high quality becomes an unjustifiable cost to the lunch program. For example, there is no need to buy Grade A Fancy peach halves which will be cut up and put into a gelatin dessert, when irregularly cut Grade B peaches are available at a much lower price. Ground sirloin is not required to make hamburgers. The term "quality" in the context of food purchasing can be considered synonymous with the word "suitability."

The following additional guidelines should be observed when preparing food specifications:

1. Do Not Overspecify the Characteristics of the Product. The manufacturers of the food items use certain standards in the production process, and it costs them (and the purchaser) money to deviate from those standards. It is pointless to specify such details as the size of the pineapple chunk. It also is expensive to specify non-standard characteristics. For example, most meat suppliers generally provide ground beef with either 20 percent or 25 percent fat; a

specification of 22 percent or 17 percent fat for beef patties will raise the price.

2. Use Brand Names Carefully. The purpose of the formal bid is to obtain lower prices by encouraging competition among the vendors. If you will only accept one particular brand of a food item, the chances are that you will pay a higher price for it. There are two reasons for this:

- Some suppliers will not submit bids on the item if they do not have immediate access to that brand. This limits the competition for the item, which limits the range of prices available.

- If a supplier does not ordinarily carry the brand, it will cost more to obtain it (and warehouse it). The extra expense will be passed on to the purchaser.

Generally these problems can be avoided if the specification is more flexible. Brand names can effectively be used to indicate a certain level of quality if the words "...or approved equal" are added to the brand specification. This tells the supplier that you might want proof that an alternative brand is of similar quality to the brand mentioned in the specification. Another way of keeping a brand specification flexible is to specify several brands of an item which the purchaser has found to be of acceptable quality.

3. Certificates of Grade Should Be Used in Specifications Only When There Is Absolutely No Other Way to Insure the Quality. Certificates are expensive to the manufacturer because a Federal inspector must be paid to perform the tests and inspections necessary to give it a certificate. This cost is passed on through the wholesaler to you. The purchaser who demands a grade certificate will automatically pay a higher price. An effective set of specifications, the use of reliable vendors, and a program for inspecting and testing the received goods should adequately guarantee the quality level without the added expense of grade certificates.

Another point to be made about grade certificates is they are only justified when delivery terms involve a very large order dropped to a central point. The cost of grade certificates for quantities that must be delivered to and stored by individual schools is prohibitive. For example, the cost is $3.69 per case for a ten case delivery.

(d) Phase II - Testing And Inspection

In this phase of the quality assurance program the purchaser follows through on the specifications by insuring that the goods specified are the goods received. It takes place after the vendors' bids have been placed, both before and after award of the contract.

Testing is the phase of inspection which involves the determination of the characteristics and nature of a product through the application of recognized and established principles and procedures. Inspection is the critical examination which may or may not include testing of items to determine whether they have been received in the correct quantity and condition, and that they conform to the applicable specifications*. In short, testing involves doing something to a sample of the product, while inspection generally means looking at its characteristics.

In the purchase of food, inspection and testing procedures are diverse. Canned fruits and vegetables may be inspected and tested for color, texture, ripeness, presence of blemishes, drained weights, presence of non-edible materials, and so forth. Some school systems conduct can-cuttings periodically in which product samples from different vendors are compared. For other types of products, testing procedures will often involve food sample preparation for determining if the bid specifications have been met. Various simple testing and inspection procedures are available for this purpose.

In general, however, repeated testing of the same products from the same vendors becomes a redundant, costly activity from the standpoint of both purchaser and vendor. Testing of samples before the award of contract should be confined to the following circumstances:

1. A new vendor competing in the bid and the quality of merchandise is unknown.

2. An existing vendor is competing in the bid with an item whose quality is unknown.

3. A vendor's bid prices are significantly or unusually lower than competitor's prices.

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*Council of State Governments. State and Local Government Purchasing, published by author, Lexington, Kentucky, March, 1975.

4. There is a new product on the market which may be of value to the school lunch program.

5. There is a need to determine if a particular brand is of suitable quality for its use in the schools.

A case can be made for the use of can cuttings and sample testing before the contract award as an educational tool for those school systems which are just initiating a quality assurance program, and are training their food service personnel in quality assurance techniques. Some national wholesaler-distributor companies will conduct can-cutting upon request. This service is free, and usually involves an unbiased comparison of different grades of food. Over a period of time, however, as other quality assurance procedures are established, frequent testing of the same products tends to become an unnecessary exercise.

A procedure which is of value both as an educational device and as quality assurance measure is the inspection of the facilities of the various competing suppliers. A reputable vendor of food products should be willing to allow a prospective customer to tour the plant. The potential benefits of this activity to you are several:

1. You can determine whether the food is handled and stored in a satisfactory manner.

2. You will develop more of an understanding of the constraints under which the vendor must operate, and perhaps can learn how to work with the vendor to get lower prices within those constraints.

Surprisingly, very few schools have any procedures for checking the quality of the items they were receiving from their vendors after the contract has been awarded. There are a few basic verification activities which should be standard procedures, performed by the person in charge of receiving deliveries. They include the following:

1. Counting the Units or Cases Delivered to Be Sure that the Number and Quantity Received is the Quantity Ordered. This number should be documented and sent to the central purchasing office. It should be retained until the purchasing office receives an invoice from the vendor for the purchase. procedure will be handled in the Administration section of this report.

2. Checking the Label to Be Certain that the Grade and Nature of the Food Product Meets the Contract Specifications. A copy of the specifications should be kept near the point of

receipt and referred to upon each delivery. Items which do not meet the specifications should be refused if possible and the central purchasing office notified immediately. Many contracts stipulate that if the supplier is unexpectedly short on a product, they may substitute a product of equal or greater quality. The person who receives and checks the goods should be made aware of this when it is going to occur.

3. When There Is Doubt about the Quality or Nature of a Product, Random Samples Should Be Taken for Tests. The food the quality or nature of a product random samples should be taken for tests. The food service manager can run a few simple tests in the school kitchen. Many state universities offer food quality control services in which students run tests on food samples. Regardless of the specific testing/inspection procedures the school system develops, the vendors of the food items should be told that random sampling and testing is performed, and that if products are found to be of unsuitable quality the vendor will be expected to make reparation.

Complaints against a particular vendor on the basis of the quality or condition of the food or service should be recorded by the food service manager and sent to the school system's purchasing operation. The head of the purchasing system should maintain records of the complaints against each contracted vendor, and should immediately contact the vendor when a complaint is received. If the vendor does not correct the error and the action causing the complaint is repeated, the head of purchasing can either cancel the contract (depending on the seriousness of the complaint) or eliminate that vendor from future bid competitions. Over a period of time, these follow-through procedures on quality assurance will eliminate the unreliable vendors from the school business and will decrease the problems of maintaining a high level of food quality.

### (e) Administration of a Quality Assurance Program

An important feature of a good quality assurance program is that it be uniformly administered and enforced. This can best be accomplished if both phases of quality assurance activites are administered by a centralized office in the school system. Since most or all contracting activities are performed by central purchasing, and a quality assurance program to a great extent involves the establishment of the contract terms and their enforcement, the centralized purchasing office is the logical location of the quality assurance administration.

(f) Administration of Specifications Development

A high degree of cooperation between the central purchasing office and the food service office is essential in the development of food specifications. Although the central purchasing office must be responsible for final approval of the specifications for inclusion in the bid and contract, it must take the initiative of obtaining input and feedback from the food services office. The administrative structure of the specification development activities should be established in accordance with the staffing and budgetary resources available. However, to increase the involvement (and commitment) of the food service management personnel in the quality assurance program it may be advisable to form a panel or committee which will write the specifications. This group can be responsible for seeking out the information about USDA and industry quality grades, yield and portion requirements, pack sizes and manufacturers' standards; In addition, food specifications can be copied or extracted from neighboring districts' specifications, USDA specifications, and industry specifications literature. The specifications should be written with a general knowledge of the food preparation techniques to assure the suitablility of the product to its intended use. A committee which included individuals from the food services office and the central purchasing office would be ideally suited for this. Or, in the case where food services and purchasing are managed by the same office or individual, the head of the office should take the major part of the responsibility for specifications development, using input from the cafeteria management for selection and use of foods.

In addition to the initial development of specifications, the committee (or individual) should be responsible for updating and revising old specifications. Specifications are not static in nature; new products are developed or improved, the recipes and kitchen equipment change, and the tastes of the students change. The function of preparing and revising specifications must consequently be continuous.

A major aid in the development of specifications can be found through an exchange of information with other school districts. Time is saved, knowledge is increased, and duplication of effort is often avoided when those areas with more highly developed programs share their expertise and information. A school system which is involved in establishing a quality assurance program can gain a great deal by seeking such an exchange with a more experienced neighbor. An added benefit of these arrangements is that an information exchange within an area tends to increase the standardization of procedures and specifications utilized in the school systems. The more uniform these features are, the easier it is for the vendors to deal with

the schools. This increases the school systems' desirability as a customer, so that vendors will often work harder to keep the business. This is one of the major benefits of cooperative purchasing programs, in which several school districts must to standardize specifications in order to purchase as a unit.

The main duty of the central purchasing office in administering the specifications writing should be to make a final judgement of the following issues:

1. Do the specifications meet and not exceed the requirements of the lunch program?

2. Are the specifications consistent and correct in their terminology, so that the needs of the school systems are clearly communicated?

3. Are the specifications flexible enough to allow sufficient price competition?

4. Do the specifications comply with all Federal, State and local regulations on the bid process?

Specifications which meet these criteria are suitable for inclusion in the Invitation to Bid and in the supplier contract.

### (g) Organization of Testing/Inspection

The central purchasing office is responsible for formulating testing and inspection policies and enforcing them. As with the specifications development, this is best done with extensive inputs from the food services office and from those individuals who will be performing the testing and inspection tasks, (the food service managers in most cases). Again, a good way to promote cooperation and communication might be to establish a representative advisory committee to assist in policy decision-making on testing and inspection procedures. Or, if this is not practical, a draft of new procedures could be developed in the central purchasing office and then presented to the individuals responsible for performing the procedures for their input, and revised as necesary. It is extremely important that new quality assurance procedures are not suddenly imposed on individuals who are not prepared to carry them out. The best way to guarantee the failure of the quality assurance program is to neglect to communicate its purpose and its importance to those who will be required to do the work, especially if they have never done it before. If there is no understanding of why the new procedures must be followed, the procedures will be circumvented, and the effectiveness of the quality assurance program will be minimal.

A good means of establishing testing and inspection procedures is to set them out in a handbook or manual. The contents of the manual should be carefully reviewed with those who will be charged with inspection responsiblities. The manual should include instructions on exactly what to look for (quantity, quality, damaged packages, etc.) when goods are received, and how to handle the situation when they are unsatisfactory. Details about sampling procedures should be set out, along with tests that can be performed on each type of food in the kitchen facilities. If other tests are required for food samples, instructions on submitting the samples and reporting the results should be included.

Enforcement of inspection procedures can be effected through the following means:

1. Documentation reconciliation.

2. Informal inspections by the head of central purchasing.

3. Periodic inventory checks.

The purchasing system should be set up so that when the central purchasing office completes a purchasing order for a particular vendor, one copy of the order should be retained in the office, one should be sent to the person who will receive the delivery, and another should go to the vendor. The purchase order which goes to the receiver of the goods should not have the ordered quantity filled in. When the delivery is made, it is that person's responsibility to count the units delivered, record it on the purchase order, and check the labels and packs and to verify that they are the same as were ordered. Finally, the receiver must sign and date the purchase order and the vendor's invoice and send the purchase order back to the purchasing office. At the purchasing office the receiver's copy should be matched with the original purchase order, and the figures compared. These will also be compared with the vendor's invoice. The vendor should be informed that the receiver's signature must be on the invoice before the bill will be paid. Consistent, continuous reconciliation of the receiving documents is a good means of enforcing the quality assurance procedures.

The person responsible for purchasing should make a point of periodically visiting the school cafeteria storerooms and other places where goods are received. A walk through the storage area can reveal whether, for example, the labels on the canned goods are what they should be, and whether the size of the containers are correct. Very obvious mistakes are easily detected in this manner.

This periodic inspection can be more rigorously supplemented by regular detailed inventory checks. At certain given times during the year the number of each type of item in each storage area should be counted and reconciled with the records of what was purchased and what was used. At this time you can check the inventory lists to make sure that the items in storage are the items which were ordered.

It is also a good idea to distribute copies of the contract specifications to the receivers, along with information about which grades are represented by the vendor labels. The more understanding the receiving personnel have of the quality assurance program, the more likely they will enforce it.

Another measure available to you to ensure compliance with testing/inspection procedures is to have a specific means for the food service managers to voice complaints about the food or service they are receiving from the vendors. Food managers should be given a form to complete whenever they feel the vendor has violated a specification or any other contractual agreement. This form could be used if the quantity or quality of food delivered is incorrect, if the delivery is late, if the package is damaged, if frozen food is thawed, perishable food is spoiled, and so forth. This form should include the date and nature of the violation, the name of the vendor, the number of the purchase order, and the signature of the food manager. It should also include space for the food manager to tell what, if any, actions were taken. ("Items accepted and used due to immediate need," etc.) Whenever possible all food items not in compliance with the contract should be refused upon delivery. When this is not possible, a sample package of each type or item in violation should be retained by the receiving personnel. The food managers should also be instructed to telephone the central purchasing office immediately when an error or violation has been made by the vendor.

It is the responsibility of the central purchasing office to immediately act upon any complaints received. An unreasonable delay between detection of an error and performance of corrective action may nullify the school system's claim to reparation. In addition, food managers tend to stop filing complaints if they do not see that their complaints are directly effecting their dealings with the vendor in question.

Therefore, you should call the vendor the same day the error was detected, if possible, and inform the vendor of the food manager's complaint. If it was an honest mistake, more than likely the vendor will immediately offer to correct it. The vendor should be reminded of the contractual agreement and asked to provide or replace the goods in question within a certain (short) period of time. If the problem is bad service, it should be corrected on the next delivery. The food manager should then be advised of what, if any, agreement was reached with the vendor, and instructed to contact the purchasing office when reparation has been made. The contact can be made either through written notification or by telephone. A note should be made on the original complaint form as to whether or in what manner the issue was resolved, and the complaint form should be filed under the vendor's name. If two or three complaint forms accumulate in a vendor's file, you might consider cancelling the vendor's contract and/or eliminating the vendor from future school system competitions. (The food managers might be consulted before this is done.) You should be sure that there is sufficient evidence to justify any actions taken against a vendor.

We believe that when a school system makes it clear that it intends to maintain a strict quality assurance program, the vendors are less likely to try to take advantage of you. However, the procedures must be uniformly and continuously applied and enforced in order to have lasting effects on the quality of the total school lunch program.



*U.S. GOVERNMENT PRINTING OFFICE : 1978 0-261-516/FNS-4